



NUE: Building Models and Manipulating Molecules Active Learning for Nanoscience Education



Michael Falvo, University of North Carolina at Chapel Hill : [NUE 0303979](#)

“Handcrafting in the Nanoworld” is a freshman seminar course on nanoscience now offered at UNC. It was developed, taught and evaluated through support of this grant. Students build models of nano-systems and nano-processes using model building toys and craft materials, read literature related to their models and lead class discussions and presentations related to these activities.

“This course allowed me to think critically and creatively about science and made me realize how rewarding it could be as a career” –quote from student

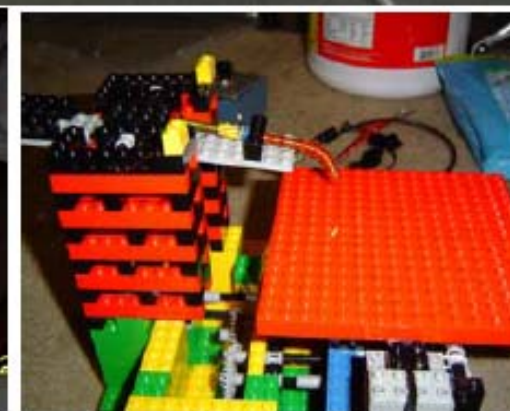


Figure- *Upper sequence:* Lego-Magnet Self-Assembly; *Middle:* Student: Dac Cannon adding thermal energy to self assemble a velcro/magnet/rubber tubing “protein” designed to fold in a particular configuration. *Lower left :* Styrofoam Playdoh HIV. *Lower Right:* Lego Magnetic Force Microscope